Statement of Work
US Embassy Dar Es Salaam
Generator Maintenance Contract
PR 4711222

I. GENERAL INFORMATION:

The United States Embassy in Dar ss Salaam requires preventive maintenance and servicing of the Mission's residential generators.

II. PROJECT REQUIREMENTS:

DESCRIPTION OF EQUIPMENT:

69 residential generators of mixed sizes, located at residences located on the peninsula in Dar es Salaam. A full list of all generators (Appendix A) and a status report of all generators (Appendix B) is available.

III. GENERAL REQUIREMENTS:

The contractor will be responsible for labor and materials (see 7.1.2) required to carry out all preventive maintenance as outlined in this SOW.

The contractor shall provide all materials, supervision, labor, tools, and equipment to perform preventive maintenance. All personnel working in the vicinity shall wear and /or use safety protection while work is performed. Any questions or injuries **must** be brought to the attention of the Post Occupation Safety and Health Officer (POSHO), who is John Rexford (RexfordJF@state.gov). Material Safety Data Sheets (MSDS) shall be provided by the contractor for all HAZMAT materials.

The contractor shall maintain a supply of oil, fluids, filters and preventative maintenance parts at their own expense for routine maintenance. The U.S. Embassy will provide residential generator fuel.

The contractor shall provide emergency repair for generators under this contract within 3 hours of being contacted by the Embassy.

IV. SCOPE OF WORK - - GENERATOR PREVENTIVE MAINTENANCE

Check all generators monthly (approximately every 20 working days).

Service generators every 250 hours. Labor is free of charge/included in your contract price, parts at cost. Vendor to maintain a sufficient stock of base materials (filters, etc) to ensure routine maintenance coverage.

Provide a monthly report by email to the Contracting Officer's Representative, detailing work performed and documenting any unmet needs, to be submitted no later than 5 working days from month end to the Contracting Officer's Representative (COR).

Provide 24/7 coverage, including technicians available on mobile phone. Technician, parts and backup generator should be located on the peninsula. Contractor will provide emergency service within 3 hours of a call.

Provide a dedicated account contact and dedicated service technicians.

Upon commencement of the contract, perform a full service and thorough check on all generators, with a detailed report of all findings and recommendations.

Within one month of contract start, prepare a work plan and proforma invoice to remedy any and all existing issues, and submit to COR for approval. Assuming acceptance of your work plan and proforma, within two months of contract start, all US embassy residential generators should be at normal service levels/steady state.

Any items required during servicing and not quoted for in this agreement should be noted by the contractor in writing to the COR. They may be invoiced by the contractor after submission of a proforma invoice and subsequent approval within 7 working days from the US Embassy.

Please quote a labor rate for repairs above and beyond normal servicing covered in this contract. Please quote for labor for repairs during normal working hours (8:30-5pm Mon-Friday) and for repairs outside these working hours.

Contract covers free replacement loan unit for emergency power while faulty unit is under repairs, including delivery to/from the residence. If there is a generator in our pool that you CANNOT provide a free replacement unit for, please note this in your quote so that we can make alternate arrangements.

Remote Sensor System: please provide and install a remote sensor system that will enable both the contractor and the US Embassy to monitor all generators remotely from a computer. Please provide technical specifications, along with a work plan of how you will install and monitor the individual sensors. You may charge an initial setup fee for the sensor parts and installation if necessary. Contractor will provide training to embassy personnel on the remote sensor operation.

The contractor will advise the Embassy when generators should be replaced and provide a list of make/model/size of generator.

At any time but at a minimum monthly, we welcome your recommendations on how to best run and service our generators.

The contractor will need to follow standard property access procedures as detailed by US Embassy Facilities Maintenance.

Parts: the Embassy has a limited amount of generator spare parts. Initially a list of available spare parts will be provided to be issued when needed.

If any discrepancies are found with the generator systems that are not covered under this scope of work, the contractor must provide the following:

1. Detailed report noting the discrepancy found.
2. Bill of Materials (BOM) to include component name, quantity, part #, and price for any repair material required and material lead time.
3. Price quote for repair labor.

At a minimum, the following work must be completed:
Notes:

- Contractor must submit to the Contracting Officer's Representative (COR) work sheet/checklist that will be used for performing maintenance service.
- COR must immediately be made aware of any condition discovered that could result in equipment failure.
- Test and inspection report shall be submitted to the COR within three days of completing work.
- Laboratory report for all chemicals (oil, coolant or fuel analysis) shall be submitted to the COR.

Maintenance Interval Schedule
(Standby Generators)

Notes:

- This is a basic generic list. Manufacturers recommendations should be followed and supersede recommendations in this list. If available, the manufacturer's maintenance schedule can be taken directly from equipment operations and maintenance manual and placed here.
- Generators experiencing periods of prime usage and those operating in severe environments may require more frequent maintenance.
- Before each consecutive interval is performed, all maintenance from the previous intervals must be performed.

A. Semi-Annual Schedule

1. Conduct visual inspection around generator.
    - Check for evidence of leaks, damage, lose or missing hardware.

- Inspect engine and generator wiring harness for wear and damages.
- Inspect supports and spring isolators for soundness and stability.
- Inspect unit for corrosion.
- Hoses and Clamps - Inspect/Replace if needed.
- Belts - Inspect/Adjust/Replace if needed.
- Inspect all fuel, oil, and water piping for secure mounting.
- Inspect exhaust piping and muffler insulation.

2. Batteries.
    - Battery charger – Inspect operation and clean.
    - Battery electrolyte level and specific gravity – Check and adjust. Add distilled water as needed.
    - Perform battery load test.
    - Clean battery terminals and lugs (apply grease on terminal connections).
3. Fluids and Filters.
    - Cooling System Coolant Level - Check and adjust.
    - Coolant conditioner (DCA/SCA) – Check and adjust to specs.
    - Jacket Water Heater - Check proper operation.
    - Engine Oil Level - Check and add if needed.
    - Fuel/water separators – Drain water.
    - Engine Air Cleaner Service Indicator – Check, clean filter if needed.
4. Generator Room.
    - Fuel tanks – Inspect and treat fuel if needed, check fuel level, drain water and sediment.
    - Automatic fuel system -Check operation and control panel.
    - Space Heater/Room exhaust fan - Check for proper operation.
    - Air intake/exhaust – Ensure nothing obstructs airflow; louvers are free and operate properly.
    - Exhaust condensate trap – drain condensate.
5. Control Panel.
    - Electrical Connections - Check tightness
    - Clean and remove dust from panel.
6. ATS.
    - Clean and remove dust.
    - Inspect seals.
    - Note date of last battery change. (Replace if 2 years or older).
    - Tighten connections.
    - Check for hot spots.
7. Run unit – No load.
    - Run the generator with no load for 15 minutes.
        - Remote Start Panel-Inspect and test operation. Inspect and clean.
        - Check the generator for unusual conditions, such as: excessive vibration, leaks, excessive smoke.
        - Verify all gauges and indicators are normal and functioning properly.
        - Check all indication lights, replace any defective bulbs.

8. Start unit and run under load for 1 hour.
    - Note: Unit should be run under facility load if permissible. If not, unit should be run with a minimum 80% load with load bank.
    - Automatic Start/Stop – Inspect.
    - Check ATS operations and calibrate TDES, TDNE, TDEN, TDEC if necessary. Observe and record retransfer/cool down time.
    - Check automatic open and close shutter-stats and thermatic fans.
    - Generator Set Vibration – Inspect.
    - Read and record all gauges/meters.
    - Record load readings – Voltage, amps, frequency, power factor.
    - Check exhaust for excessive black or white smoke.
    - Check turbocharger for vibrations or any abnormal noise during operation.
    - Check generator bearing for noise and overheating.
    - Check exhaust manifold, muffler, and piping for leaks and secure mountings.
9. Additional.
    - Ensure Generator/ATS is left in proper position for automatic start and transfer.
    - Clean generator and generator room. Wash radiator if necessary.
    - Annotate date, hours and maintenance in Generator log, fill out maintenance checklist and report deficiencies to COR.
    - Perform any additional maintenance tasks as recommended in the manufacture's operation and maintenance manuals.
    - Submit Service Inspection and Test Report to COR.

B. Annual Schedule

1. Conduct Semi-Annual PM service
2. Engine Air Cleaner Elements – Replace.
3. Engine Crankcase Breather – Clean.
4. Engine Oil Sample - Obtain and perform analysis. Submit report to COR.
5. Engine Oil and Filter – Replace.
6. Fuel Filters and Water Separators – Replace.
7. Obtain fuel sample at day tank and storage tank for analysis.
8. Radiator – Clean (pressure wash).
9. Intake louvers and ducts – Inspect/Clean (pressure wash).
10. Fan Drive Bearing – Lubricate.
11. Magnetic Pickups - Clean/Inspect.
12. Cooling System Coolant Sample - Obtain
13. Cooling System Supplemental Coolant Additive (SCA) - Test/Add
14. Coolant filter – Change if applicable
15. Crankshaft Vibration Damper - Inspect
16. Engine Protective Devices - Check
17. Engine Valve Lash - Inspect/Adjust
18. Turbocharger – Inspect/Check; Check end play and radial clearance on the turbine wheel and shaft.

19. Clean and lubricate fuel pump linkages if applicable.
20. Fan bearing – Inspect/Grease.
21. Clean dust and vacuum all the controls, meters, switching mechanism components, interior buswork, Remote Start control panel, Annunciator and connecting lugs of the ATS.
22. Inspect/Check buswork and supporting hardware for carbon tracking, cracks, corrosion, or any type of deterioration.
23. Check all control wiring and power cables (especially wiring between or near hinged door) for sign of wear and deterioration.
24. Check the cabinet interior for loose hardware – tighten connections.

C. 2 Year Maintenance Schedule:

1. Conduct the Semi-annual and Annual PM Service.
2. Inspect water pump and seals; replace any worn or defective parts.
3. Clean and inspect the oil cooler.
4. Clean and inspect the after cooler.
5. Generator – Check for moisture, dust, oil, grease, and debris on main stator windings, exciter. Clean as needed
6. Generator bearing – Inspect/Grease (or as recommended by manufacturer).
7. Service or replace the batteries in the Digital Module every two years. (as applicable)

D. 3 Year Maintenance Schedule.

1. Cooling System Coolant – Flush system and replace coolant (Note CAT ELC coolant to be replaced every 12,000 hrs or 6 years).
2. Cooling System thermostat – Replace
3. Belts and hoses – Replace
4. Batteries - Replace
5. Generator Main Stator Winding Temperature (if equipped with winding defectors) – Check and record main stator winding temperatures with engine under load. NOTE: Nominal temperature values for stand by units are 180^0C (356^0F) for the alarm and 205^0C (401^0F) for the shutdown.
6. Generator Bearing and Bearing Bracket Temperature (If Equipped) – Check and record all bearing bracket temperatures with the engine under a load. NOTE: Nominal temperature values for the bearing bracket are 85^0C (185^0F) for the alarm and 95^0C (203^0F) for the shutdown.